

REMARKS

In view of the foregoing amendments and the following remarks, favorable reconsideration of this application and allowance thereof is respectfully requested. Claims 1-13 stand rejected. Claim 1 has been amended. No new matter has been introduced.

In the Office Action, the Examiner, repeating prior arguments, rejected independent claim 1 and dependent claims 1, 3, 4, 11 and 13 under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,276,761 ("Beck") in view of U.S. Patent No. 3,432,210 ("Crouch"). Applicants respectfully traverse these claim rejections for the reasons set forth hereinafter.

As set forth in detail in the present application and in previous submissions, Applicants' claimed invention is directed to an electronic compressed air system comprising a compressed air supply part having a compressor, a compressed air consumer part having load circuits forming an air-suspension circuit, and service-brake circuits having reservoirs. The load circuits are supplied with compressed air via solenoid valves. The solenoid valve of the air-suspension circuit is closed in the de-energized normal state. The solenoid valves of the other load circuits are open in the de-energized normal state.

Beck, which shares a common assignee with the present application, describes an air braking system having a compressor, an air consumer circuit, a first electrically actuatable valve between the compressor and the consumer circuit, an auxiliary air circuit, and a second actuatable valve between the compressor and the auxiliary circuit, wherein the auxiliary circuit is connected to the compressor via a non-return valve. In the event of an electrical failure, the auxiliary circuit can be arranged to supply air under pressure to the consumer circuit. Beck discloses electrically actuatable valves for supplying compressed air to service-brake circuits

(valves 21-24) that are in a closed position in a de-energized normal state. These normally closed electrically actuatable valves only open when there is demand by the service-brake circuits. The Examiner acknowledges this fundamental difference between Beck and the present claimed invention -- that is, that the solenoid valves for supplying compressed air to service-brake circuits of the present claimed invention are in an open position in a de-energized normal state. The Examiner then relies on Crouch to overcome the deficiencies of Beck as a §103 reference here.

Crouch describes a fluid-actuating brake system for railroad locomotives. The braking system is actuated by a reduction of pressure in a brake pipe in which a conventional automatic brake valve is replaced by manually actuated control that automatically causes a preselected reduction in the brake pipe line. Even though the brake circuitry disclosed by Crouch is not even remotely similar to that found in either Beck or the present claimed invention, militating against one of ordinary skill in the art being motivated or even equipped to modify Beck based on Crouch, the Examiner nonetheless cites Crouch for its general disclosure of a vent valve (71) that is normally open. See Crouch at 5:55-59. Applicants respectfully submit that Crouch does not structurally bridge the chasm between Beck and the present claimed invention.

The disclosure of an open vent valve in a de-energized normal state cannot properly be considered a substitute for electrically actuatable valves for supplying compressed air to service-brake circuits and a high pressure compressed air load circuit that are in an open position in a de-energized normal state. By utilizing a solenoid valve for an air suspension circuit that is closed in a de-energized normal state in conjunction with electrically actuatable valves for supplying compressed air to service-brake circuits that are in open position in the de-energized normal state, Applicants' present claimed invention eliminates the need for

compressed air reservoirs for further compressed air load circuits. Furthermore, by having the service-brake circuits in an open position in a de-energized normal state and already in communication with compressed air reservoirs, the system of the present claimed invention advantageously provides for easy switching of the valve associated with the air-suspension circuit to an open position to establish communication with the service-brake circuits and their corresponding compressed air reservoirs in order to refill the air-suspension circuit. Applicants have amended independent claim 1 to further clarify the foregoing.

In response to Applicants' arguments set forth in the previous Office Action, the Examiner contends that, based on the teachings of Crouch, a valve that is, in the abstract, in a normally closed position (valves 21-24) in the de-energized state can be switched with a valve that is in a normally open position in the de-energized state and achieve the same functionality. Applicants respectfully submit that the Examiner's argument is misplaced, for to do so completely defeats the purpose of the system disclosed by Beck. Respectfully, the Examiner is not seeing the forest for the trees. The position taken by the Examiner ignores the overall impact on the system, which would result in a complete change to the compressed air circuitry and render the relief circuit formed by solenoid valve 26 and relief valve 32 superfluous. *See* Beck at 6:5-10. Given that there is no motivation to defeat essential features and functionalities of the compressed air system disclosed by Beck, it would be counterintuitive for one of ordinary skill in the art to modify Beck according to the teachings of Crouch. Indeed, to do so would not even yield the present claimed system.

Furthermore, the Examiner's position runs contrary to the well-recognized specific exclusion principle. By this principle, when a claim is limited in a way that plainly and necessarily excludes a structural feature that is the opposite of the one recited in the claim, the

excluded feature cannot be brought within the scope of patent protection through the doctrine of equivalents. *See Capital Bridge Co., LTD. v IVL Tech., LTD.*, 2006 U.S. Dist. LEXIS 62801 (S.D.N.Y. August 30, 2006); *aff'd* 2007 U.S. App. LEXIS 19103 (Fed. Cir. Aug. 10, 2007). That is, the opposite of something cannot also be its equivalent. This is a logical principle that bears on the present case – “closed” cannot logically be deemed the equivalent of “open” (the people at the Hoover Dam would agree).

Accordingly, Applicants submit that independent claim 1 of the present application recites features and structure nowhere taught or suggested in the Beck and Crouch references, and, thus claim 1 is patentable over these references, whether taken alone or in combination. Notice to this effect is earnestly requested.

It is further submitted that dependent claims 3, 4, 11 and 13 are also allowable by virtue of their respective dependencies from independent claim 1, as well as for the additional steps and features recited therein. Notice to this effect is also earnestly requested.

The Examiner rejected dependent claims 2, 5-10 and 12 under 35 U.S.C. §103(a) as being unpatentable over Beck and Crouch in various combination with U.S. Patent No. 4,911,617 (“Buma I”); U.S. Patent No. 4,799,707 (“Buma II”); U.S. Patent No. 4,616,881 (“Müller”); and U.S. Patent No. 6,149,246 (“Terborn”). Applicants respectfully traverse these claim rejections for the reasons set forth hereinafter.

As an initial matter, Applicants respectfully submit that dependent claims 2, 5-10 and 12 are also allowable by virtue of their respective dependencies from independent claim 1. In addition, Buma I, Buma II, Müller and Terborn do not cure the severe deficiencies of Beck and Crouch as discussed above.

The Buma I patent cited by the Examiner in combination with Beck and Crouch against claims 2 and 12 describes embodiments of an air pressure circuit having a compressor that is divided into two chambers by a slideable piston. The Examiner cites Buma I for its general disclosure of an air suspension circuit and an air dryer disposed on the compressed air supply line.

The Buma II patent cited by the Examiner in combination with Beck and Crouch against claims 5 and 6 describes embodiments of an electronically controlled suspension system for controlling the body attitude of a vehicle having reserve tanks for holding compressed air for delivery at start-up in order to decrease starting torque. The Examiner cites Buma II for its general disclosure of an electronic control device adapted to control a high pressure compressed air load circuit.

The Müller patent cited by the Examiner in combination with Beck and Crouch against claim 8 and in further combination with Terborn against claims 7-10 describes embodiments of a tractor-trailer braking system with a control valve for the trailer that is controllable by at least two service brake circuits of the tractor. The Examiner cites Müller for its general disclosure of secondary load circuits without compressed air reservoirs.

The Terborn patent cited by the Examiner in combination with Beck, Crouch and Müller against claims 7-10 describes embodiments of a compressed-air supply system having an air-suspension system and a brake system. The brake system is provided with a compressed-air tank connected to both the air-suspension system and brake system and dimensioned for air pressure greater than or equal to the air pressure demanded in the air-suspension system. The Examiner cites Terborn for its general disclosure of at least one secondary circuit having a lower pressure than service brake circuits.

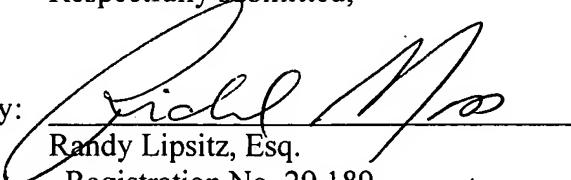
None of Buma I, Buma II, Müller and Terborn cures the deficiencies of Beck and Crouch as discussed above. Buma I, Buma II, Müller and Terborn do not teach or suggest that the electrically actuatable valves for supplying compressed air to the service-brake circuits are in open position in a de-energized normal state. Accordingly, Applicants submit that claims 2, 5-10 and 12 of the present application recite features and structure nowhere found in the Buma I, Buma II, Müller and Terborn references, and, thus claims 2, 5-10 and 12 are patentable over these references, whether taken alone or in combination. Notice to this effect is earnestly requested.

On the basis of all the foregoing, Applicants respectfully submit that this application is in condition for immediate allowance, and notice to this effect is respectfully requested. The Examiner is invited to contact Applicants' undersigned attorneys at the telephone number set forth below if it will advance the prosecution of this case.

No fee is believed due with this Reply. Please charge any fee deficiency to Deposit Account No. 50-0540.

Respectfully submitted,

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